

Hydration Assessment

Children and infants rely on others for fluids and nutrition. They also have some key anatomical and physiological differences, making them more susceptible to dehydration. Therefore, a paediatric hydration assessment is imperative.

Primary Clinical Care Manual: Clinical assessment of hydration in a child.

Clinical Feature	Minimal <3%	Mild-Moderate 3-9%	Severe >9%
Eyes and fontanelle	Normal	Mildly sunken	Deeply sunken
Mouth and tongue	Moist	Dry	Parched
Mental state	Alert	Normal to irritable	Irritable, lethargic, or decreased level of consciousness
Skin turgor	Normal	Recoil < 2 seconds	Recoil >2 seconds
Thirst	Drinks normally. May be thirsty. May refuse fluids	Thirsty	Drinks poorly
Respiratory Rate	Normal	Tachypnoea	Tachypnoea
Pulse	Normal	Tachycardic	Tachycardic, weak pulse
Capillary Return	Normal (<2secs)	Delayed >2 seconds	Very Delayed >3 seconds
Extremities	Warm hands and feet	Cool hands and feet	Cold, mottled, cyanosed hands and feet
Urine Output	Normal to reduced. Clear to straw colour.	Reduced. Yellow/orange coloured.	Minimal to anuric. Dark orange/ brown



ALERT

Due to physiological differences, infants and children are at a greater risk of hypoglycaemia. Consider the need to check/monitor blood glucose levels and ketone levels.

When to escalate care



Urgently seek medical advice in a child with any signs of severe dehydration.



Seek prompt senior nursing/medical advice in a child with moderate mild to moderate dehydration.



Tips in children

- As with all observations and assessments in children, it is best to conduct them in order of least to most invasive. This will help ensure minimal disruption to the child and ensure accurate findings.
- The anterior fontanelle closes somewhere between 9-18 months of age. When assessing the anterior fontanelle ensure the baby is settled and is either held or positioned sitting upright.
- The greater number or more pronounced symptoms indicate greater severity. If at all unsure as to which category the infant or child falls into, seek advice from senior nursing/medical staff.

For further information:

[Queensland Paediatric Guideline: Gastroenteritis - Emergency management in children](#)

Video:

[The tricky maths of rehydration](#)

[Hydration assessment](#)

References:

This Queensland Paediatric Emergency Nursing Skill Sheet was developed by the Emergency Care of Children working group (funded by the Queensland Emergency Department Strategic Advisory Panel) with the help of the following resources:

Section 8 Paediatrics: Gastrointestinal Problems. (2019). [E-book]. In Primary Clinical Care Manual (10th ed., pp. 731–732). State of Queensland (Queensland Health) and the Royal Flying Doctor Service (Queensland Section). <https://www.health.qld.gov.au/rccsu/html/PCCM>

Queensland Health State wide ED Nurse Educator Committee, Pearson, N., Cole, T., & Carney, S. (Eds.). (2016). Unit 7 Neurology. In Queensland Health: Transition Support Program - Emergency. Module 3 - Paediatric Care in the Emergency Department (4th ed., p. 120). State of Queensland (Queensland Health).

Nursing Skill Sheet Legal Disclaimer

The information contained in the Queensland Paediatric Emergency Care nursing skill sheets are intended for use by nursing staff for information purposes only. The information has been prepared using a multidisciplinary approach with reference to the best information and evidence available at the time of preparation. No assurance is given that the information is entirely complete, current, or accurate in every respect. The nursing skill sheets are not a substitute for clinical judgement, knowledge and expertise, or medical advice. Variation from the nursing skill sheets, taking into account individual circumstances may be appropriate. This does not address all elements of standard practice and accepts that individual clinicians are responsible for the following:

- Providing care within the context of locally available resources, expertise, and scope of practice.
- Supporting consumer rights and informed decision making in partnership with healthcare practitioners including the right to decline intervention or ongoing management.
- Advising consumers of their choices in an environment that is culturally appropriate and which enables comfortable and confidential discussion. This includes the use of interpreter services where necessary.
- Ensuring informed consent is obtained prior to delivering care.
- Meeting all legislative requirements and professional standards.
- Applying standard precautions, and additional precautions as necessary, when delivering care.
- Documenting all care in accordance with mandatory and local requirements.

Children's Health Queensland disclaims, to the maximum extent permitted by law, all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages and costs incurred for any reason associated with the use of this nursing skill sheet, including the materials within or referred to throughout this document being in any way inaccurate, out of context, incomplete or unavailable.

